

Name: _____ Date: _____ Period: _____

Constant Motion - Car Lab

Bell Ringer:

A football player receives the ball at the 10 yard line. He then runs with the ball a total of 15 yards. Finally while he is being tackled he is pushed back 5 yards before he reaches the ground.

What is his displacement and distance traveled?

Learning Target:

Constant Motion - Car Lab

Purpose:

Students will be able to determine the position of a car moving at a constant motion.

Students will be able to create a Position vs. Time graph and interpret the information.

Materials:

- Meter Stick
- Stop Watch
- Toy Car
- Tape

Directions:

1. Using the tape, create a starting line on the floor.
2. Place the car about a meter back from the starting line.
3. Release the car. When the car starts to cross the starting line, start the timer. When the timer has reached the designated time, mark where the car is at that time.
4. Measure how far the car has traveled within the designated time frame. Record the distance in table one.

Table one:

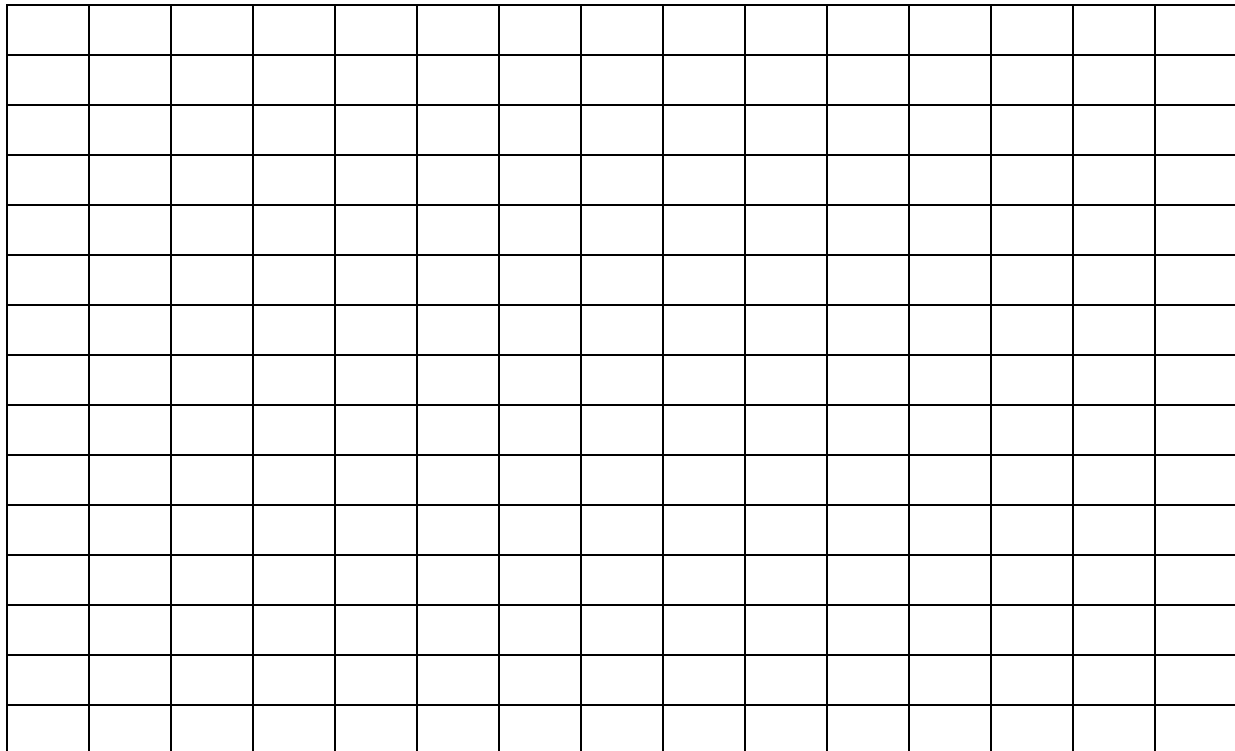
	Distance Traveled (cm)				
Time (sec)	1s	2s	3s	4s	5s
Trial 1					
Trial 2					
Trial 3					
Average					

Position Vs. Time Graph

Use the data from table one (time and positions). Your position is how far the car traveled. Therefore the position at 1 s is the measured distance from the origin (starting line).

Time = x axis

Position = y-axis



Draw Conclusions:

1. In this experiment, which variable was the independent and which was the dependent?
2. Based upon the graph drawn, would you say that the graph is a linear graph?
3. What does the graph say about the car's motion? Does it show that the car is moving at a constant velocity?
4. What are some errors that could have caused your measurements to be misleading?